

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-11 (cancelled).

12 (currently amended). A process for the copolymerisation of ethylene and an α -olefin having 7 to 10 carbon atoms in a fluidised bed gas phase reactor in the presence of a single site polymerisation catalyst comprising operating said process in condensed mode and wherein the amount of said α -olefin is maintained below that at which substantial condensation in the reactor occurs partial pressure of said alpha-olefin in the reaction zone is maintained below an amount which would, at a temperature of 10°C less than the temperature of the monomer mixture in the reaction zone, be the saturated vapor pressure of said alpha-olefin to prevent condensation of said alpha olefin in the reaction zone.

13 (previously presented). A process according to claim 12 wherein the partial pressure of ethylene in the reactor is in the range 0.5 to 2 Mpa.

14 (previously presented). A process according to claim 12 wherein the α -olefin is 1-octene.

15 (previously presented). A process according to claim 14 wherein the ratio of 1-octene/ethylene partial pressure is in the range 0.0001 to 0.02.

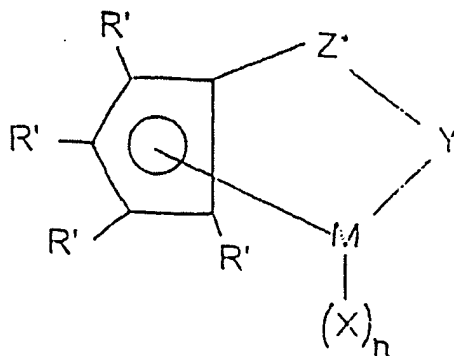
16 (previously presented). A process according to claim 12 wherein the α -olefin is 1-decene.

17 (previously presented). A process according to claim 16 wherein the ratio of 1-decene/ethylene partial pressure is in the range 0.00005 to 0.005.

18 (previously presented). A process according to claim 12 wherein the process is continuous.

19 (previously presented). A process according to claim 12 wherein the single site polymerisation catalyst is a metallocene complex.

20 (previously presented). A process according to claim 19 wherein the metallocene complex has the general formula



wherein:-

R' each occurrence is independently selected from the group consisting of hydrogen, hydrocarbyl, silyl, germyl, halo, cyano, and combinations thereof, said R' having up to 20 non-hydrogen atoms, and optionally, two R' groups (where R' is not hydrogen, halo or cyano) together form a divalent derivative thereof connected to adjacent positions of the cyclopentadienyl ring to form a fused ring structure;

X is hydride or a moiety selected from the group consisting of halo, alkyl, aryl, aryloxy, alkoxy, alkoxyalkyl, amidoalkyl and siloxyalkyl having up to 20 non-hydrogen atoms and neutral Lewis base ligands having up to 20 non-hydrogen atoms,

Y is -O-, -S-, -NR^{*}-, -PR^{*}-,

M is hafnium, titanium or zirconium,

Z^{*} is SiR^{*}₂, CR^{*}₂, SiR^{*}₂SIR^{*}₂, CR^{*}₂CR^{*}₂, CR^{*}=CR^{*}, CR^{*}₂SIR^{*}₂, or GeR^{*}₂,

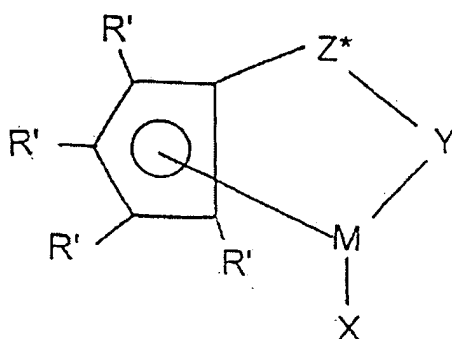
wherein:

R^{*} each occurrence is independently hydrogen, or a member selected from the group consisting of hydrocarbyl, silyl, halogenated alkyl, halogenated aryl, and combinations thereof, said

R^{*} having up to 10 non-hydrogen atoms, and optionally, two R^{*} groups from Z^{*} (when R^{*} is not hydrogen), or an R^{*} group from Z^{*} and an R^{*} group from Y form a ring system,

and n is 1 or 2 depending on the valence of M.

21 (previously presented). A process according to claim 19 wherein the metallocene complex has the general formula



wherein:-

R' each occurrence is independently selected from the group consisting of hydrogen, hydrocarbyl, silyl, germyl, halo, cyano, and combinations thereof, said R' having up to 20 non-hydrogen atoms, and optionally, two R' groups (where R' is not hydrogen, halo or cyano) together form a divalent derivative thereof connected to adjacent positions of the cyclopentadienyl ring to form a fused ring structure;

X is a neutral η^4 bonded diene group having up to 30 non-hydrogen atoms, which forms a π -complex with M;

Y is -O-, -S-, -NR^{*}-, -PR^{*}-,

M is titanium or zirconium in the + 2 formal oxidation state;

Z^{*} is SiR^{*}₂, CR^{*}₂, SiR^{*}₂SIR^{*}₂, CR^{*}₂CR^{*}₂, CR^{*}=CR^{*}, CR^{*}₂SIR^{*}₂, or GeR^{*}₂,

wherein:

R* each occurrence is independently hydrogen, or a member selected from the group consisting of hydrocarbyl, silyl, halogenated alkyl, halogenated aryl, and combinations thereof, said

R* having up to 10 non-hydrogen atoms, and optionally, two R* groups from Z* (when R* is not hydrogen), or an R* group from Z* and an R* group from Y form a ring system.

22 (previously presented). A process according to claim 20 wherein the metal M is titanium.